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NATIONAL DEFENSE UNIVERSITY

NATIONAL WAR COLLEGE

**THE INDIA-PAKISTAN NUCLEAR DILEMMA: ARE
NUCLEAR AMBIGUITY AND CRISIS STABILITY COMPATIBLE?**

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| Report Documentation Page | | | | Form Approved OMB No. 0704-0188 | |
|--|------------------------------------|-------------------------------------|----------------------------|---|---------------------------------|
| Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. | | | | | |
| 1. REPORT DATE 1996 | | 2. REPORT TYPE | | 3. DATES COVERED 00-00-1996 to 00-00-1996 | |
| 4. TITLE AND SUBTITLE The India-Pakistan Nuclear Dilemma: Are Nuclear Ambiguity and Crisis Stability Compatible? | | | | 5a. CONTRACT NUMBER | |
| | | | | 5b. GRANT NUMBER | |
| | | | | 5c. PROGRAM ELEMENT NUMBER | |
| 6. AUTHOR(S) | | | | 5d. PROJECT NUMBER | |
| | | | | 5e. TASK NUMBER | |
| | | | | 5f. WORK UNIT NUMBER | |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) National War College, 300 5th Avenue, Fort Lesley J. McNair, Washington, DC, 20319-6000 | | | | 8. PERFORMING ORGANIZATION REPORT NUMBER | |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) | | | | 10. SPONSOR/MONITOR'S ACRONYM(S) | |
| | | | | 11. SPONSOR/MONITOR'S REPORT NUMBER(S) | |
| 12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited | | | | | |
| 13. SUPPLEMENTARY NOTES | | | | | |
| 14. ABSTRACT see report | | | | | |
| 15. SUBJECT TERMS | | | | | |
| 16. SECURITY CLASSIFICATION OF: | | | 17. LIMITATION OF ABSTRACT | 18. NUMBER OF PAGES 18 | 19a. NAME OF RESPONSIBLE PERSON |
| a. REPORT unclassified | b. ABSTRACT unclassified | c. THIS PAGE unclassified | | | |

INTRODUCTION

Current U.S. non-proliferation policy in South Asia seeks to cap Indian and Pakistani nuclear programs short of open deployments and then, over time, roll back and eventually eliminate them. Given our temporary acquiescence to nuclear proliferation in the region, our immediate objective should be to help achieve a form of stable nuclear deterrence between the two countries. Thus, the chief challenge of this essay is to determine whether freezing in place the current state of nuclear ambiguity (i.e., non-weaponized deterrence) is compatible with crisis stability. The essay argues that, absent additional steps to manage nuclear deterrence in South Asia, current U.S. policy could actually increase, not decrease, the chances of nuclear war.

BACKGROUND

It has become commonplace to point to South Asia as the most likely region for future nuclear confrontation. India and Pakistan have not openly deployed nuclear weapons, but either country could assemble a limited number of weapons in a relatively short period of time. Both countries have combat aircraft capable of being modified to deliver nuclear weapons, and both are also developing or acquiring ballistic missiles capable of delivering such weapons. If another war between the two breaks out, it would be the first time states with nuclear capabilities have been in a major, direct conflict.

From the time of India's 1974 test of a nuclear device until the mid-1980's, U.S. policy in South Asia focused predominantly on gaining Indian and Pakistani adherence to the Nuclear Non-Proliferation Treaty as non-nuclear weapons states, and their acceptance of IAEA safeguards on relevant nuclear facilities. This goal has been, and still is, unachievable in the near future. India, in particular, views the NPT, which divides the world into nuclear-haves and have-nots, as discriminatory. Moreover, Pakistan and India have perceived threats to their security that continue to be significant

drivers of their nuclear programs -- Pakistan is conventionally overmatched by Indian military forces, while India borders not only a nuclear-capable Pakistan, but a conventionally and nuclear superior neighbor in China

Given that India and Pakistan are currently unwilling to eliminate their nuclear programs, beginning in the Bush administration, the U.S. shifted to a policy of first seeking to cap and then, over time, roll back and eventually eliminate nuclear programs on the subcontinent. This policy shift reflected the reality of the strong incentives for proliferation in South Asia and limited U.S. leverage. Still, the decision remains controversial. A key element of this controversy is the question of whether the conditions for stable nuclear deterrence can be maintained in South Asia until nuclear weapons programs are eventually eliminated.

THE CONDITIONS FOR STABLE NUCLEAR DETERRENCE

Much of the skepticism regarding whether nuclear stability can be maintained in South Asia is rooted in contrasts made between the conditions that contributed to stable nuclear deterrence between the U.S. and the Soviet Union during the Cold War and the situation that currently exists in South Asia where many of these conditions are either absent or, at best, only partly present. For example, contrasted with the U.S.-Soviet Cold War situation:

- the stakes in a conflict between India and Pakistan are very high. Political independence, territorial integrity and even national survival can be at issue in any conflict. The dismemberment of Pakistan in 1971 is offered as evidence that India has never reconciled itself to Pakistan's existence, while India accuses Pakistan of fomenting secession in Kashmir, Punjab and Assam.
- political leadership accountability is low in India and Pakistan, as are the institutional constraints on nuclear programs. Both India and Pakistan are democracies, but nuclear decision-making takes place in small, closed circles, unrestrained by wider parliamentary or public review. The historically weak political position of the heads of state in both countries also makes wider control of nuclear programs more problematic.

- both sides's capabilities, intentions and policies are more unpredictable and more open to misinterpretation in South Asia. This problem is exacerbated by the ambiguous nuclear posture of India and Pakistan which makes it difficult to determine the true status of nuclear programs in both countries. Both countries are inclined to make worst-case assumptions given ambiguities about each other's capabilities and intentions. This is fed by decades of hostile relations which have engendered a degree of mistrust and suspicion in which each side takes for granted the aggressive design and hostile intention of the other.
- many questions arise concerning the ability of India and Pakistan to meet the technical requirements of stable deterrence: survivable nuclear systems which help to preclude "use or lose" pressures in a crisis; safety and security measures necessary to preclude accidents, theft, or unauthorized use of weapons (e.g., permissive action links and weapon design features such as insensitive high explosives, weak-link-strong-link electrical systems, one-point safety); effective command and control and operating procedures, including nuclear release and alert procedures; and adequate intelligence (e.g., early warning systems) to help preclude misunderstanding or misperception of the other side's behavior.
- S. Asia is also more complicated than the U.S.-Soviet relationship in that it there are three players instead of two, since China must be considered in any equation. Stable, three-sided deterrence is a difficult proposition.

THE CASE FOR OPEN DEPLOYMENTS

Many of the stability problems noted above could arguably be addressed by assisting India and Pakistan in deploying small, survivable, and safely configured nuclear arsenals with centralized and efficient command and control systems.

Unacknowledged, non-deployed nuclear programs are less likely to be subject to political debate and control; for example, there is unlikely to be any real discussion of what nuclear weapons would be used for (i.e., doctrine) given possible future contingencies, or how to control their use in a crisis. Rather, the prevailing situation is one of "out of sight, out of mind." With unacknowledged/non-deployed programs, both India and Pakistan would also have to rely in a crisis on untested procedures for handling nuclear weapons, deploying and alerting nuclear forces, and authorizing the release of

weapons. As a result, the risk of accidents or loss of control could be significant.

Miscalculations may also be greater in such a situation because of uncertainties about the other sides's nuclear capabilities, the status of their nuclear forces, and their intentions. In a crisis, these uncertainties and attendant fears could incline India and Pakistan to make worst-case assumptions and decide to use nuclear weapons prematurely based on concerns that the other side is about to conduct a preemptive or surprise attack. This fear could drive both sides to race to deploy their nuclear capability in a crisis. Active steps to move toward nuclear deployments in such a situation would likely be viewed as provocative and could further exacerbate the situation.

Terry Deibel's case study of U.S. aid to Pakistan during the Bush Administration describes intelligence reporting that strongly suggests such a propensity, at least on the part of Pakistan, during the May 1990 standoff with India over Kashmir (the first major crisis that occurred after both sides had achieved a nuclear weapon capability) when Pakistani F-16s may have been armed with nuclear weapons. Deibel quotes CIA Deputy Director Richard Kerr as stating, "It was the most dangerous nuclear situation we have ever faced since I've been in the U.S. government. It may be as close as we have ever come to a nuclear exchange...There is no question in my mind that we were right on the edge." (1:11)

Some argue that many of the stability concerns associated with unacknowledged/non-deployed nuclear programs could be avoided by open deployments on both sides. Such a step would force both India and Pakistan to assess seriously the safety of nuclear weapon designs, deploy effective command and control systems, and develop necessary alert practices and release

procedures for the use of nuclear weapons. Exercises could also be openly conducted to test all of the above. Open deployment would also undoubtedly help to ensure high level political involvement and control and public debate. Small minimum deterrent nuclear forces could be slowly deployed in an agreed fashion so that neither side could gain a military advantage by striking first in a crisis and both sides would have an assured retaliatory capability -- two conditions for stable deterrence. Openly deployed forces would also mean that both sides' nuclear capabilities would be less subject to misinterpretation.

THE CASE FOR CAPPING INDIAN AND PAKISTANI NUCLEAR PROGRAMS

Despite the above arguments, there are good reasons to reject the option of open deployment and seek instead to cap or freeze Indian and Pakistani nuclear programs. For example:

- given the mistrust between the two sides, managing a transition to stable deployed force structures would be difficult without triggering an all-out competition with the potential for rapid expansion of arsenals on both sides.
- while knowledge of both sides' capabilities would probably increase under verifiable open deployments, uncertainties about intentions would still be difficult to reduce.
- open deployments would likely lead both sides to actively integrate nuclear weapons into their military planning, thus potentially making their use more likely.
- open deployments could stimulate a counter reaction from China, particularly if India deploys the longer-range Agni missile which would be capable of targeting Beijing from eastern India.
- most importantly, allowing both Pakistan and India to take another step up the nuclear proliferation ladder to open deployment would appear to accept the inevitability of, and even sanction, nuclear proliferation, thus undermining our global non-proliferation efforts. Open deployments would also make the eventual roll back and elimination of Indian and Pakistani nuclear programs more difficult.

Some of the stability concerns associated with unacknowledged/non-deployed nuclear programs are reduced as long as weapons are not actually assembled (e.g., the risks of accidental detonation, theft, or unauthorized use). Moreover, there is little interest in Western theories of deterrence, crisis stability, escalation control, war termination etc. among the political or military elites in India or Pakistan. The ideas of planning for highly complex command and control measures, or whether and how to deploy and protect nuclear weapons to ensure retaliatory capability, are generally viewed as somehow irrelevant to the situation in South Asia. No doubt part of this denial is a result of thinking about the staggering costs that would be associated with deploying nuclear weapons and the necessary infrastructure. Given the huge social and economic problems in both countries, it would also be difficult for the United States to put itself in the position of arguing for such a step.

ARE NUCLEAR AMBIGUITY AND CRISIS STABILITY COMPATIBLE?

Both India and Pakistan appear to believe their current posture of designed nuclear ambiguity enhances their security by preserving the nuclear option and by allowing them to reap the political and prestige benefits of being a nuclear power without incurring the costs of actually deploying nuclear forces.

Current U.S. policy would perpetuate this nuclear ambiguity -- by seeking to freeze or cap the nuclear programs of India and Pakistan short of open deployment. The key question that has to be asked with regard to this policy, however, is whether nuclear ambiguity and crisis stability are compatible, or could current U.S. policy actually increase the possibility of nuclear conflict in South Asia by perpetuating an inherently unstable situation.

While accepting the Indian and Pakistani desire to preserve some ambiguity, U.S. policy should seek to regulate and manage it in a way that improves crisis stability -- i.e., by trying to reduce any incentive for preemptive or early use of nuclear weapons. Given the current situation in South Asia, crisis stability could be enhanced by focusing our attention on both Indian and Pakistani capabilities and intentions -- specifically, by trying to develop measures designed to: (1) expand the time required for either side to actually weaponize, deploy and use their nuclear capabilities, and (2) make more transparent their intentions with regard to the use of nuclear weapons.

Stability would be enhanced if the time required to assemble and deploy nuclear weapons is weeks or months, rather than days or hours. Such a situation would decrease the possibility that nuclear weapons could be used early in a crisis as a result of miscalculation or misunderstanding, and increase the time for diplomacy to work. Stability will also be enhanced if both sides understand or believe that the other has no intention to use nuclear weapons as an early response in a time of crisis, i.e., that nuclear weapons are viewed purely as a deterrent to nuclear use by the other side or as an option of last resort. In sum, stability will be increased if there is a significant firebreak in crossing the weaponization/deployment/use thresholds and neither side feels pressure to race toward overt nuclear deployments and to use nuclear weapons early in a crisis, as may have been the case in May 1990.

WEAPONIZATION CAPABILITY TIMELINES. Measures designed to lengthen weaponization/deployment timelines are easier to conceptualize than measures designed to get at intentions. One can think of a number of stages in the development/deployment of nuclear weapons and delivery systems that would increase the timeline for possible nuclear use.

1. Weapons. India has already tested a nuclear device, and there is a general consensus that a crude fission bomb could probably be deployed with high confidence by Pakistan without actually testing it for a nuclear yield. (This confidence would be further increased if, as some suspect, Pakistan's bomb is based on a previously tested Chinese design.) A ban on further testing could, however, prevent the development of thermonuclear weapons or smaller, lighter warheads that would be easier to deploy on ballistic missiles. A Comprehensive Test Ban Treaty and a Fissile Material Cutoff Treaty would both contribute to stability in South Asia, but neither would address existing Indian and Pakistani capabilities.

Since both sides already have weapon design capabilities and sufficient fissile material to make a number of bombs, some experts have advocated institutionalizing measures designed to ensure both sides that nuclear weapons have not actually been assembled. George Perkovich, for example, has proposed that India and Pakistan agree, inter alia, what level of nuclear weapons preparation is permissible and then verify as well as possible that neither side crosses that line. (2:102) Perkovich suggests an agreement not to maintain finished weapons cores.

Rosalind Reynolds has suggested a similar type of non-weaponization regime which she argues could include the following provisions: "states would provide an open acknowledgment as to the extent of their nuclear programs; fissile material would be secured and protected from smuggling and theft; states would offer a formalized statement that any fissile materials in their possession have not been assembled into weapons and are not intended to be used in an aggressive first strike against another state; and mutual inspections would enforce non-weaponization." (3:26)

The regimes proposed by Perkovich and Reynolds appear too far reaching.

particularly since verification of non-weaponization would require highly intrusive monitoring -- certainly including on-site inspections at nuclear facilities. It is unlikely that the level of trust between India and Pakistan and the political weakness of both countries' current leadership would allow for such intrusive inspections at this time. (For example, India and Pakistan have signed a bilateral agreement banning the possession, manufacture and use of chemical weapons in advance of their ratification and the entry-into-force of the Chemical Weapons Convention, but the bilateral agreement contains no verification provisions, probably because of the intrusiveness that would be necessary.) Even with on-site inspection provisions (including "anytime, anywhere" challenge inspections), it is unlikely that high confidence in any non-weaponization agreement could be achieved since nuclear weapons are small and could be assembled and stored in literally countless locations.

2. Delivery Systems. As noted earlier, both India and Pakistan probably already have the capability to modify aircraft in their inventory to carry nuclear weapons, if they have not done so already.* Attention has, consequently, focused on ballistic missiles -- systems both sides are developing or acquiring, but have not yet deployed. In Western nuclear theory, ballistic missiles have always been considered the most destabilizing type of system because of their high readiness, great accuracy, short flight times and assured penetration to target -- characteristics that make them

* Determining whether an aircraft is nuclear capable would be difficult, even with on-site inspection. Modified aircraft could have special weapons racks or wiring (e.g., to allow weapons to be armed in flight), but such adaptations probably are not required. Because of this uncertainty and the intrusive inspections required, constraints on aircraft capability are not considered viable. Aircraft capabilities could partially be addressed by banning training for nuclear missions, a subject which is addressed later in the paper. In any event, ballistic missiles are of greater concern in the types of first strike or early use scenarios that are the focus of concerns about crisis stability.

ideal first-strike or surprise attack weapons. Aircraft, in contrast, have longer flight times, face significant air defenses, and, unlike missiles, are recallable. Thus, they have been considered purely second-strike or retaliatory systems.

In the India-Pakistan context, aircraft flight times to targets would be relatively short, but for other reasons noted above and below, ballistic missiles would still be of greater concern. A missile race on the subcontinent would arguably constitute the greatest threat to stability and the strongest incentive to move toward nuclear weaponization and the possibility of preemptive or early use in a crisis. The Indian Prithvi missile (range 150-250 km) would be capable of attacking most military and civilian targets in Pakistan. India continues to assert that the Prithvi will be armed only with conventional weapons for deep strike missions. However, the missile's high cost (and, thus, probable limited deployment) and reported questionable accuracy would appear to make air power a better option for the deep strike role. Under such circumstances, the Pakistanis are likely to view the Prithvi primarily as a potential nuclear delivery vehicle. Even if on-site inspection could verify that deployed warheads are conventionally-armed, the Pakistanis would not be able to ensure themselves that these warheads were not swapped out for nuclear ones once inspectors left missile deployment areas.*

Because of the Prithvi's relatively short launch preparation time and short time of flight, actual deployment would weaken Pakistan's confidence that it could maintain a non-weaponized deterrent capability. Pakistan's response would surely be to deploy the M-11 missiles it has reportedly

* The U.S. exhaustively studied options for verifying warhead type during the course of the INF and START negotiations and found all of the approaches studied to be seriously flawed.

obtained from China or its own comparable Hatf-II missile, which is currently in development. Mutual deployments of ballistic missiles (and concerns that they could be nuclear-armed) would likely result in fears of surprise or preemptive attack and worst-case planning on both sides. The risk of misinterpretation or misjudgment in such a case could significantly increase, as could pressures for early use of nuclear weapons.

A number of measures could be conceived that would increase the length of time necessary for either side to deploy ballistic missiles. The most far-reaching measure would be to ban further ballistic missile flight-testing, production or acquisition. The complete flight-test program necessary to develop confidence in a missile would likely take several years to complete. As in the case of weapon testing, however, this threshold has already been passed, at least for the Prithvi and the M-11. (The Agni and Hatf missiles would likely require further testing before deployment.) In any event, a complete ban on testing, development and production is unlikely to be acceptable to the Indians since it would probably be viewed as discriminatory, i.e., other countries would not be banned from developing and producing ballistic missiles. A verifiable ban would also probably require India to give up its space launch vehicle program, something that is highly unlikely given the prestige the development of ballistic missiles and space launch vehicles provides the country.

Other steps, however, might be possible -- e.g., stopping the serial production or acquisition of missiles, banning actual deployment, establishing a regime requiring that any missiles that are produced or acquired be kept in storage well out of range of the other side, or requiring that existing missiles and their launchers be kept geographically separated to increase the time that would be needed for deployment.

Unlike measures related to the assembly of nuclear warheads, the measures above (with the possible exception of limits on production/acquisition) could be verified with relatively high confidence using only national technical means (i.e., satellite monitoring). In all of these cases, verification would be aided by the fact that the discovery of a single deployed missile or a missile/launcher in a prohibited location would be proof of a violation. The U.S. has a wealth of experience to offer in all of these areas based on the negotiation and implementation of the START and INF Treaties. Since these measures could be monitored with NTM and would not require intrusive verification, they might be acceptable to both India and Pakistan. The U.S. could offer to provide third-party monitoring of any agreement. However, both India and Pakistan could make use of SPOT satellite data which is commercially available, for example, or possibly agree to some form of aerial monitoring, perhaps based on the Open Skies Treaty.

3. Training. A third approach to increasing weaponization capability timelines would be to prohibit training for nuclear missions. Such training would probably be necessary if nuclear weapons were going to be used in a coordinated first strike or in a preemptive fashion early in a war. Defining activities that constitute training for a nuclear mission would be difficult, particularly if ballistic missiles are deployed for ostensible conventional weapons delivery. Only unique nuclear weapons handling procedures might provide an indication of such training. Aircraft training for nuclear missions might be more detectable since the maneuvers necessary to deliver nuclear weapons are generally different than those for conventional weapons delivery. However, this is not a certainty. (START II bans heavy bombers that are "reoriented" to conventional aircraft under the Treaty from training for nuclear missions, but does not otherwise define such training.)

Verification of training constraints by NTM alone would also be difficult, both in the case of missiles and aircraft. For both definitional and verification reasons then, training limitations may not be feasible. Since there are no apparent indications that either India or Pakistan overtly trains for nuclear missions, however, this may not be of great concern.

INTENTIONS. Addressing the intention side of the stability equation is far more difficult than increasing weaponization/deployment timelines. Intentions cannot be seen, measured, or verified and can change quickly. Yet they are critical to the issue of either side moving rapidly toward a deployed nuclear capability and the possible use of nuclear weapons in a crisis, particularly if the time needed to weaponize is short. The primary means of addressing intentions would be through confidence-building measures, particularly those that could enhance communication, build crisis avoidance mechanisms, or increase transparency. Pakistan and India have previously negotiated a number of bilateral confidence-building measures, including a military-to-military hotline agreement, an agreement prohibiting the attack of each other's nuclear installations, and agreements on the mutual advance notification of military exercises. The two sides have also agreed to "no-fly" zones near their joint border as a CBM.

Several new measures might also be proposed. Expanding the agreement on the prohibition of attack on nuclear facilities and installations to cover population and economic centers could further reduce pressures for early nuclear use. A bilateral agreement on "no first use" of nuclear weapons or "no early first use," which might be more acceptable to Pakistan given its inferiority in conventional forces, might also be useful in clarifying both sides' intentions to use nuclear weapons only as a deterrent to nuclear use by the other side or as a last resort in the event of conflict. In short, we should try to get both India and Pakistan to adopt declaratory policies that

would forswear the options of surprise or preemptive nuclear attack. Rosalind Reynolds suggestion for declaratory statements on non-weaponization might also be useful in this regard, even absent any effective verification measures. Other measures to improve communication, shared understandings and transparency might include enhanced military-to-military ties, exchanges on doctrine and defense budgets, establishment of a crisis prevention center (possibly along the lines of the OSCE model) as a means of fostering exchanges, a joint early-warning center that could involve joint manning of various sensors (e.g., radars) designed to reduce misperception and misunderstanding, or the establishment of a hotline between heads of state.

CONCLUSION

U.S. policy options in South Asia are limited. The incentives for nuclear proliferation are very strong and U.S. leverage is relatively weak. Expressed concerns about nuclear stability in the region are met by resentment on the part of both Indians and Pakistanis who perceive such concerns as reflecting a belief that their leaders would be irrational in their decisions on the use of nuclear weapons. Thus, gaining Indian or Pakistani agreement to any U.S. initiatives to enhance stability will be difficult.*

* One problem that stands out in considering policy U.S. policy initiatives, is the lack of incentives we have to offer to encourage Indian and Pakistani cooperation and restraint, largely as a result of our own domestic law. For example, India is interested in U.S. cooperation in the area of nuclear power plant safety, but under the 1978 Nuclear Non-Proliferation Act, we are strictly constrained in the level of assistance we can offer because India refuses to accept full-scope safeguards on its nuclear facilities. Similarly, the MTCR effectively prohibits us from considering offering India assistance with its space launch program as an incentive to curb its ballistic missile programs. The Pressler amendment similarly has limited the possibilities for virtually all forms of assistance to Pakistan, although the Brown amendment passed last year has brought some relief. The Congress and the Administration need to consider whether our non-proliferation policy is advanced by continuing these constraints. Arguably, U.S. non-proliferation interests have been most successfully advanced by the use of positive, not negative incentives -- Ukraine and North Korea being the two noteworthy examples

Both Pakistan and India appear to be satisfied with their current posture of nuclear ambiguity. This policy, however, coexists uneasily with the conditions necessary for crisis stability. This paper has suggested several steps that could be taken to improve this situation. On the "intentions" side of the equation, there is unfortunately growing evidence that India and Pakistan have ceased to utilize even previously agreed confidence-building measures. While both countries still use the hotline between their Directors of Military Operations, there is apparently little or no discussion of substantive matters. There are indications that the two sides have also stopped notifying each other in advance of military exercises. The two countries' Foreign Secretaries have similarly discontinued their regular dialogue, with the last meeting held in January 1994. Existing CBMs must be implemented before new measures can be seriously considered, and the Clinton Administration should use its full weight to encourage this development.

With regard to weaponization timelines, the Clinton Administration is currently pressing India and Pakistan to forego the deployment of ballistic missiles. Based on the analysis in this paper, this emphasis appears appropriate. A mutual agreement to abandon ballistic missile deployments would arguably be the most important step that could be taken at this time. The Administration should, however, further propose a bilateral agreement between India and Pakistan to store any missiles that are produced or acquired outside of the range of the other side, and to store missiles and their launchers in geographically separated locations. If the prestige associated with ballistic missile development is the primary driver of these programs (rather than true military requirements), then these types of constraints might be acceptable to both sides. These missile deployment-related measures could also be verified without the intrusive inspections that make more

far-reaching weapons non-assembly proposals much more problematic at this time

With possible Prithvi and M-11 deployments on the near horizon, swift agreement on a ballistic missile non-deployment regime becomes imperative. Absent such measures, the U.S. policy of capping nuclear programs in South Asia risks failure, and could actually increase, rather than decrease, the possibility of nuclear war in the region.

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